

## REMARKS

In the Final Office Action mailed September 7, 2007, the Examiner took the following action: (1) rejected claims 1-37 under 35 U.S.C. §103(a) as being unpatentable over Smith (U.S. 5544842) in view of Fad (U.S. 5793632), and further in view of Wong (U.S. 5432904), and further in view of the Examiner's Official Notice. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

### *I. Rejections Under §103(a)*

#### Claims 1-9

As amended, claim 1 recites:

1. A method for estimating man-hours and costs to complete regulatory certification of a modification to a system, the method comprising:
  - entering one or more components of the system involved in the modification;
    - based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification;*
    - determining which of the automatically identified other components of the system to include in the modification;
    - identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification;*
    - determining at least one *scope of work needed to complete regulatory certification* for each of the entered and included other components; and
    - generating an estimate of man-hours and costs needed to complete *regulatory certification* based on all of the determined scopes of work. (emphasis added).

Smith (U.S. 5544842)

Smith teaches apparatus and methods for conversion of a three pilot aircraft cockpit to a two pilot aircraft cockpit. (3:43-49). According to Smith, a supplemental type certification can be granted by the FAA for the resulting aircraft. (4:18-20). As noted by the Examiner, Smith is silent as to all other aspects of the method taught by Applicants and recited in claim 1. (Office Action, p. 3).

More specifically, Smith fails to disclose, teach, or fairly suggest a method “for estimating man-hours and costs to complete regulatory certification of a modification to a system, the method comprising: entering one or more components of the system involved in the modification; *based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*; determining which of the automatically identified other components of the system to include in the modification; *identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification*; determining at least one *scope of work needed to complete regulatory certification* for each of the entered and included other components; and generating an estimate of man-hours and costs needed to complete *regulatory certification* based on all of the determined scopes of work” as recited in claim 1. (emphasis added). Thus, while Smith mentions certification, the certification activities contemplated by Smith are those conventional certification activities which may require extensive research and identification efforts, and testing to determine compliance. Since there is no teaching of the above-noted limitations of claim 1, claim 1 is allowable over Smith.

Fad (U.S. 5793632)

Fad teaches tools for estimating costs and labor associated with designing and producing products, including avionics and space system costs. (1:15-20; 3:14-22). According to Fad, a model is used to perform parametric cost estimates including labor and materials. (3:36-49).

Fad is silent as to estimating the costs associated with regulatory certification activities, or methods for performing such cost estimates.

Applicants respectfully submit that Fad fails to remedy the above-noted deficiencies of Smith. More specifically, Fad fails to disclose, teach, or fairly suggest a method “for estimating man-hours and costs *to complete regulatory certification of a modification* to a system” that includes, in relevant part: “entering one or more components of the system *involved in the modification; based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*; determining which of the automatically identified other components of the system to include in the modification; *identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification*; determining at least one *scope of work needed to complete regulatory certification* for each of the entered and included other components; and generating an estimate of man-hours and costs *needed to complete regulatory certification* based on all of the determined scopes of work” as recited in claim 1. (emphasis added).

Several aspects of claim 1 are not disclosed, taught, or fairly suggested by Fad. For example, Fad fails to teach or suggest “estimating man-hours and costs *to complete regulatory certification of a modification* to a system,” or “generating an estimate of man-hours and costs *needed to complete regulatory certification* based on all of the determined scopes of work” as recited in claim 1. (emphasis added). Fad is silent as to any aspect of estimations involving regulatory certification. In addition, the parametric estimating approach of Fad is applicable where the scope of work is already understood. Fad does not scope the work, but rather, teaches analyzing the data once the scope is defined.

Furthermore, Fad fails to teach or suggest “*based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*” as recited in claim 1. Fad is silent as to any capability involving

“automatically identifying other components.” Fad teaches that the parameters involved in the estimation process are entered by the user, as follows: “The PRICE-H System receives as inputs from a user values for various variables which specify the Equipment being modeled.” (2:27-29). More specifically, the inputs received from the user include “necessary parametric information, via keyboard 22, to define a project for which cost estimates are required ... [and] financial factors are entered which are required to implement the labor and material cost split hereof.” (5:51-55). There is no teaching or suggestion in Fad of a method that includes “*based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*” as recited in claim 1.

Similarly, it follows that since Fad fails to teach “*automatically identifying other components of the system that may be involved in the modification*,” Fad also necessarily fails to teach or fairly suggest “determining which of the automatically identified other components of the system to include in the modification” as recited in claim 1.

Furthermore, it follows that since Fad fails to teach “*automatically identifying other components of the system that may be involved in the modification*,” Fad also necessarily fails to teach or fairly suggest “*identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification*” as recited in claim 1.

For at least the foregoing reasons, claim 1 is allowable over Fad, either singularly or in combination with Smith.

#### Wong (U.S. 5432904)

Wong teaches a system for estimating automotive repairs that includes a database containing a plurality of parts, groups of parts, and lists of groups of parts. (5:33-40;5:68-6:8) The database also includes graphics, repair cost data, and replacement cost data. (5:33-47). According to Wong, the user selects the parts or groups of parts displayed by the system for the

vehicle in question. (6:29-30; 6:68-7:3; 7:40-42; 7:63-66). Based on the user's selections, the system returns the graphical images, the repair cost data, and the replacement cost data. (6:29-8:17). The user may then select whether to repair or replace the selected part or group of parts in question in order to restore the produce back to a previous existing condition. (6:29-8:17).

Applicants respectfully submit that Wong fails to remedy the above-noted deficiencies of Fad and Smith. More specifically, Wong fails to disclose, teach, or fairly suggest a method "for estimating man-hours and costs *to complete regulatory certification of a modification* to a system" that includes, in relevant part: "*based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*"; determining which of the automatically identified other components of the system to include in the modification; *identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification*; determining at least one *scope of work needed to complete regulatory certification* for each of the entered and included other components; and generating an estimate of man-hours and costs *needed to complete regulatory certification* based on all of the determined scopes of work" as recited in claim 1. (emphasis added).

Again, several aspects of claim 1 are not disclosed, taught, or fairly suggested by Wong. For example, Wong fails to teach or suggest "estimating man-hours and costs *to complete regulatory certification of a modification* to a system," or "generating an estimate of man-hours and costs *needed to complete regulatory certification* based on all of the determined scopes of work" as recited in claim 1. (emphasis added). Wong involves the repair of automobiles, and is silent as to any aspect of estimations involving regulatory certification. The teachings of Wong are limited to restoring a product back to a previous existing condition.

Furthermore, Wong fails to teach or suggest "*based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification*" as recited in claim 1. Wong is silent as to any capability involving

“automatically identifying other components.” Wong repeatedly teaches that the user selects the parts or groups of parts involved in the estimation. (6:29-30; 6:68-7:3; 7:40-42; 7:63-66). But even though Wong allows the user to select groups of parts to include in the estimation, there is no teaching or suggestion in Wong of *“based on the entered one or more components of the system, automatically identifying other components of the system that may be involved in the modification”* as recited in claim 1. Wong fails to teach or suggest automatically identifying other components, which may include, for example, identification of collateral latent impacts based on for example functional or performance interrelationships, as are contemplated by Applicants’ disclosure and recited in claim 1.

Similarly, it follows that since Wong fails to teach *“automatically identifying other components of the system that may be involved in the modification,”* Wong also necessarily fails to teach or fairly suggest “determining which of the automatically identified other components of the system to include in the modification” as recited in claim 1.

Furthermore, it follows that since Wong fails to teach *“automatically identifying other components of the system that may be involved in the modification,”* Wong also necessarily fails to teach or fairly suggest *“identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification”* as recited in claim 1.

For at least the foregoing reasons, claim 1 is allowable over Wong, either singularly or in combination with Fad and Smith.

#### Examiner’s Official Notice

The Examiner asserts as follows: “Official notice is hereby taken that it is old and well known in the art to identify certification deliverables and identifying government forms associated to the deliverables.” Applicants respectfully traverse.

Applicants respectfully submit that the Examiner's use of Official Notice in the present situation is improper. As set forth in the MPEP, section 2144.03, the Examiner may take Official Notice of facts outside of the record that are capable of instant and unquestionable demonstration as being "well known" in the art. In the present case, the facts in question are not capable of instant and unquestionable demonstration as being well known in the art, precisely because the particular combination of elements is at least part of the inventive contribution of the Applicants. The MPEP also states that no documentary proof for Official Notice is needed in cases where such knowledge is of "notorious character." There is no such notorious character regarding the particular combination of elements as presently disclosed.

The foregoing section of the MPEP further requires that assertions of technical facts in areas of esoteric technology must always be supported by citation of some reference. If the Examiner believes the technical field of this application is not esoteric, then in the absence of citing technical references, 37 C.F.R. 1.104(d)(2) provides that the applicants are entitled to obtain an affidavit from the Examiner providing data that is "as specific as possible" in support of a reference made (here, the reference is one of "Official Notice"). The rule further provides that the applicants are entitled to contradict such an affidavit or provide further explanation in response.

Assuming *arguendo* that the Examiner's assertion of Official Notice may be considered proper, the Official Notice fails to remedy the above-noted deficiencies of Wong, Fad, and Smith. Therefore, claim 1 is allowable over the cited references (Wong, Fad, and Smith), either individually or in combination with the Examiner's Official Notice. Dependent claims 2-9 depend from claim 1 and are allowable at least due to their dependencies on claim 1, and also due to additional limitations recited in those claims.

#### Claims 10-18

Similarly, claim 10 recites:

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10. A computer-based apparatus for estimating man-hours and costs to complete regulatory certification of a modification to a system, the apparatus comprising:

means for entering one or more components of the system involved in the modification;

*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components;*

means for determining which of the automatically identified other components of the system to include in the modification;

means for identifying which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification;*

*means for determining at least one scope of work needed to complete certification for each of the entered and included other components; and*

*means for generating an estimate of man-hours and costs needed to complete regulatory certification based on all of the determined scopes of work.* (emphasis added).

As described more fully above, Applicants respectfully submit that the cited references (Wong, Fad, and Smith) and the Examiner's Official Notice (assuming *arguendo* that such Official Notice is proper), hereinafter the "Cited Materials", either individually or in combination, fails to disclose, teach, or fairly suggest the apparatus recited in claim 10. Specifically, the Cited Materials fail to teach or fairly suggest a computer-based apparatus "for estimating man-hours and costs to complete regulatory certification of a modification to a system," the apparatus including in relevant part "*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components;* means for determining which of the automatically identified other components of the system to include in the modification; means for identifying which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification;* *means for determining at least one scope of work needed to complete certification for each of the entered and included other*



*components; and means for generating an estimate of man-hours and costs needed to complete regulatory certification based on all of the determined scopes of work.”* (emphasis added).

None of the Cited Materials teach or suggest “estimating man-hours and costs to complete regulatory certification of a modification to a system.” While the Cited Materials may arguably teach performing estimations to produce products (even products that require regulatory certification), or to repair or replace products, there is no teaching or suggestion of “estimating man-hours and costs to complete regulatory certification of a modification to a system.” There is also no teaching or suggestion of “*means for generating an estimate of man-hours and costs needed to complete regulatory certification based on all of the determined scopes of work.”* as recited in claim 10. (emphasis added).

Furthermore, as described more fully above, the Cited Materials fail to teach or suggest “*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components*” as recited in claim 10. The Cited Materials teach that the components of the system are entered by a user, as individual parts or groups of parts, but the Cited Materials are silent as to any capability involving “means for automatically identifying other components.”

Similarly, it follows that since the Cited Materials fail to teach “*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components,*” the Cited Materials also necessarily fail to teach or fairly suggest “determining which of the automatically identified other components of the system to include in the modification” as recited in claim 10.

Furthermore, it follows that since the Cited Materials fail to teach “*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components,*” the Cited Materials also necessarily fail to teach or fairly suggest “means for identifying which of the entered components and the

included other components involved in the modification *require regulatory certification activity based on the modification*” as recited in claim 10.

For at least the foregoing reasons, claim 10 is allowable over the Cited Materials, either singularly or in combination. Claims 11-18 depend from claim 10 and are allowable at least due to their dependencies on claim 10, and also due to additional limitations recited in those claims.

#### Claims 19-27

Similarly, claim 19 recites:

19. A computer program product for estimating man-hours and costs *to complete regulatory certification of a modification to a system*, the product comprising:

a component configured to receive entry of one or more components of the system involved in the modification;

*a component configured to automatically identify other components of the system that may be involved in the modification based on the entered one or more components;*

a component configured to allow a user to determine which of the automatically identified other components of the system to include in the modification;

a component configured to identify which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification*;

a component configured to determine at least one scope of work needed to complete regulatory certification for each of the entered and included other components; and

a component configured to generate an estimate of man-hours and costs needed *to complete regulatory certification based on all of the determined scopes of work*. (emphasis added).

As described more fully above, Applicants respectfully submit that the Cited Materials, either individually or in combination, fails to disclose, teach, or fairly suggest the computer program product recited in claim 19. Specifically, the Cited Materials fail to teach or fairly suggest a computer program product “for estimating man-hours and costs *to complete regulatory certification of a modification to a system*,” the product including in relevant part “*a component configured to automatically identify other components of the system that may be involved in the*

*modification based on the entered one or more components*; a component configured to allow a user to determine which of the automatically identified other components of the system to include in the modification; a component configured to identify which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification*; a component configured to determine at least one scope of work needed to complete regulatory certification for each of the entered and included other components; and a component configured to generate an estimate of man-hours and costs needed *to complete regulatory certification based on all of the determined scopes of work.*” (emphasis added).

As noted above, none of the Cited Materials teach or suggest “estimating man-hours and costs *to complete regulatory certification of a modification* to a system.” While the Cited Materials may arguably teach performing estimations to produce products (even products that require regulatory certification), or to repair or replace products, there is no teaching or suggestion of “estimating man-hours and costs *to complete regulatory certification of a modification* to a system.” There is also no teaching or suggestion of “a component configured to generate an estimate of man-hours and costs needed *to complete regulatory certification based on all of the determined scopes of work*” as recited in claim 19. (emphasis added).

Furthermore, as described more fully above, the Cited Materials fail to teach or suggest “*a component configured to automatically identify other components of the system that may be involved in the modification based on the entered one or more components*” as recited in claim 19. The Cited Materials teach that the components of the system are entered by a user, as individual parts or groups of parts, but the Cited Materials are silent as to any capability involving “a component configured to automatically identify other components.”

Similarly, it follows that since the Cited Materials fail to teach “*a component configured to automatically identify other components of the system that may be involved in the modification based on the entered one or more components,*” the Cited Materials also necessarily fail to teach

or fairly suggest “a component configured to allow a user to determine which of the automatically identified other components of the system to include in the modification” as recited in claim 19.

Furthermore, it follows that since the Cited Materials fail to teach “*a component configured to automatically identify other components of the system that may be involved in the modification based on the entered one or more components,*” the Cited Materials also necessarily fail to teach or fairly suggest “a component configured to identify which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification*” as recited in claim 19.

For at least the foregoing reasons, claim 19 is allowable over the Cited Materials, either singularly or in combination. Claims 20-27 depend from claim 19 and are allowable at least due to their dependencies on claim 19, and also due to additional limitations recited in those claims.

#### Claims 28-37

Claim 28 recites:

28. An estimating system for estimating man-hours and costs *to complete regulatory certification of a modification to a system*, the estimating system comprising:

- a database configured to store an estimating application program and related information;

- a server coupled to the database, the server comprising a processor configured to generate a interface tool by executing the stored estimating application program; and

- one or more computer-based user devices in communication with the server over a network connection, the one or more computer-based user devices comprising:

- a user interface device configured to present the interface tool, and allow a user to enter one or more components of the system involved in the modification;

- wherein the estimating application program comprises:

*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components and related information stored in the database;*

*means for determining which of the automatically identified other components of the system to include in the modification;*

*means for identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification;*

*means for determining at least one scope of work needed to complete regulatory certification for each of the entered and included other components; and*

*means for generating an estimate of man-hours and costs needed to complete regulatory certification based the determined scopes of work.(emphasis added).*

As described more fully above, Applicants respectfully submit that the Cited Materials, either individually or in combination, fails to disclose, teach, or fairly suggest the estimating system recited in claim 28. Specifically, the Cited Materials fail to teach or fairly suggest an estimating system “for estimating man-hours and costs *to complete regulatory certification of a modification to a system,*” the estimating system including in relevant part “*means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components and related information stored in the database;* means for determining which of the automatically identified other components of the system to include in the modification; means for identifying which of the entered components and the included other components involved in the modification *require regulatory certification activity based on the modification;* means for determining at least one scope of work needed to complete regulatory certification for each of the entered and included other components; and *means for generating an estimate of man-hours and costs needed to complete regulatory certification based the determined scopes of work.*” (emphasis added).

As noted above, none of the Cited Materials teach or suggest “estimating man-hours and costs *to complete regulatory certification of a modification to a system.*” While the Cited Materials may arguably teach performing estimations to produce products (even products that

require regulatory certification), or to repair or replace products, there is no teaching or suggestion of “estimating man-hours and costs to complete regulatory certification of a modification to a system.” There is also no teaching or suggestion of “means for generating an estimate of man-hours and costs needed to complete regulatory certification based the determined scopes of work” as recited in claim 28. (emphasis added).

The Cited Materials fail to teach or suggest “means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components and related information stored in the database” as recited in claim 28. The Cited Materials teach that the components of the system are entered by a user, as individual parts or groups of parts, but the Cited Materials are silent as to any capability involving “means for automatically identifying other components.”

Similarly, it follows that since the Cited Materials fail to teach “means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components and related information stored in the database,” the Cited Materials also necessarily fail to teach or fairly suggest “means for determining which of the automatically identified other components of the system to include in the modification” as recited in claim 28.

Furthermore, it follows that since the Cited Materials fail to teach “means for automatically identifying other components of the system that may be involved in the modification based on the entered one or more components and related information stored in the database,” the Cited Materials also necessarily fail to teach or fairly suggest “means for identifying which of the entered components and the included other components involved in the modification require regulatory certification activity based on the modification” as recited in claim 28.

For at least the foregoing reasons, claim 28 is allowable over the Cited Materials, either singularly or in combination. Claims 29-37 depend from claim 28 and are allowable at least due to their dependencies on claim 28, and also due to additional limitations recited in those claims.

### CONCLUSION

For the foregoing reasons, Applicants respectfully submit that claims 1-37 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated: March 4, 2008

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